

WHAT IS CLAIMED IS:

1 1. A controller for a motor driven device comprising a motor that draws a
2 current from a power supply to induce a forward motion in response to a load, said controller
3 being adapted to be connected to said motor and to detect a motor parameter indicative of the
4 value of said load, said controller being further adapted to pulse said current "on" and "off" at
5 a first predetermined cycle frequency when the value of said motor parameter exceeds a first
6 predetermined value for a first predetermined period, each "on" cycle of said first
7 predetermined cycle frequency being of sufficient duration to allow said motor to draw
8 sufficient current in response to said load.

1 2. A controller according to claim 1, wherein each "on" cycle of the first
2 predetermined cycle frequency is of sufficient duration to maintain sufficient current to the
3 motor to normalize the forward motion.

1 3. A controller according to claim 1, wherein each "off" cycle of the first
2 predetermined cycle frequency is of sufficient duration to allow the motor to be substantially
3 released from the forward motion.

1 4. A controller according to claim 1, wherein the duration of each "on"
2 cycle or each "off" cycle of the first predetermined cycle frequency ranges from 0.1 second to
3 13 seconds.

1 5. A controller according to claim 1, wherein the power supply is a
2 limited DC source.

1 6. A controller according to claim 1, wherein the controller is adapted to
2 pulse the current "on" and "off" for a first predetermined duration.

1 7. A controller according to claim 1, wherein the controller is adapted to
2 pulse the current "on" and "off" until the controller is re-set by manually cutting off the
3 power supply to the motor.

1 8. A controller according to claim 1, wherein the motor has a reverse
2 motion and the controller is adapted to release the motor from said forward motion and
3 induce the motor to said reverse motion when the value of said motor parameter exceeds a

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4 second predetermined value for a second predetermined period, said second predetermined
5 value being greater than said first predetermined value.

1 9. A controller according to claim 8, wherein the controller is adapted to
2 induce the motor to the reverse motion for a second predetermined duration.

1 10. A controller according to claim 8, wherein the controller is adapted to
2 induce the motor to the reverse motion until the controller is re-set by manually cutting off
3 the power supply to the motor.

1 11. A controller according to claim 8, wherein the power supply is a
2 limited DC source.

1 12. A controller for a motor driven device comprising a motor that draws a
2 current from a power supply to induce a forward motion in response to a load, said controller
3 being adapted to be connected to the motor and to detect a motor parameter indicative of the
4 value of said load, said controller being further adapted to release the motor from said
5 forward motion and induce the motor to a reverse motion for a predetermined duration when
6 the value of said motor parameter exceeds a predetermined value for a predetermined period.

1 13. A motor driven device, comprising
2 a motor that draws a current from a power supply to induce a forward motion
3 in response to a load, and
4 a controller connected to the motor and for detecting a motor parameter
5 indicative of the value of the load and for pulsing the current "on" and "off" at a first
6 predetermined cycle frequency when the value of the motor parameter exceeds a first
7 predetermined value for a first predetermined period, each "on" cycle of the first
8 predetermined cycle frequency being of sufficient duration to allow the motor to draw
9 sufficient current in response to the load.

1 14. A motor driven device according to claim 13, wherein each "on" cycle
2 of the first predetermined cycle frequency is of sufficient duration to maintain sufficient
3 current to the motor to normalize the forward motion.

1 15. A motor driven device according to claim 13, wherein each “off” cycle
2 of the first predetermined cycle frequency is of sufficient duration to allow the motor to be
3 substantially released from the forward motion.

1 16. A motor driven device according to claim 13, wherein the motor has a
2 reverse motion and the controller is adapted to release the motor from the forward motion and
3 induce the motor to the reverse motion when the value of the motor parameter exceeds a
4 second predetermined value for a second predetermined period, said second predetermined
5 value being greater than said first predetermined value.

1 17. A motor driven device according to claim 13, further comprising a
2 battery as source of the power supply.

1 18. A motor driven device, comprising
2 a motor that draws a current from a power supply to induce a forward motion
3 in response to a load, and
4 a controller connected to the motor and for detecting a motor parameter
5 indicative of the value of the load and for releasing the motor from the forward motion and
6 inducing the motor to a reverse motion for a predetermined duration when the value of the
7 motor parameter exceeds a predetermined value for a predetermined period.

1 19. A motor driven device according to claim 13, further comprising a
2 battery as source of the power supply.

1 20. A method of controlling a motor driven device having a motor that
2 draws a current from a power supply to induce a forward motion in response to a load, said
3 method comprising:
4 detecting a motor parameter indicative of the value of the load, and
5 pulsing the current “on” and “off” at a first predetermined cycle frequency
6 when the value of said motor parameter exceeds a first predetermined value for a first
7 predetermined period, each “on” cycle of said first predetermined cycle frequency being of
8 sufficient duration to allow the motor to draw sufficient current in response to the load.

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1 21. A method according to claim 20, wherein each "on" cycle of the first
2 predetermined cycle frequency is of sufficient duration to maintain sufficient current to the
3 motor to normalize the forward motion.

1 22. A method according to claim 20, wherein each "off" cycle of the first
2 predetermined cycle frequency is of sufficient duration to allow the motor to be substantially
3 released from the forward motion.

1 23. A method according to claim 20, wherein the duration of each "on"
2 cycle of the first predetermined cycle frequency ranges from 0.1 second to 13 seconds.

1 24. A method according to claim 20, wherein the current is pulsed "on"
2 and "off" for a first predetermined duration.

1 25. A method according to claim 20, wherein the current is pulsed "on"
2 and "off" until the current is re-set by manually cutting off the power supply to the motor.

1 26. A method according to claim 20, wherein the power is supplied from a
2 limited DC source.